

## A NEW SPECIES OF ATHIENEMANNIA FROM WESTERN NORTH AMERICA

(ACARINA, ATHIENEMANNIIDAE)

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A collection made in a cold reocrene spring near the Montana State Biological Station during the summer of 1954 contained specimens of a new species of *Athienemannia*. Although these mites are the first representatives of the family Athienemanniidae taken in North America, one subfamily, Plaumanninae, is endemic to South America. *Athienemannia*, the only genus in the subfamily Athienemanniinae, was formerly known only from Europe. It is becoming increasingly apparent that with adequate collecting in North America, more and more genera of water mites considered to be Palaearctic are found to have a Holarctic distribution. The author wishes to express appreciation to the Chicago Natural History Museum for the loan of specimens of the European species, *A. schermeri* Viets. The new species is quite distinct from previously described forms, but does not appreciably alter the original concept of the genus given by Viets (1920).

### *Athienemannia* Viets

*Athienemannia* Viets, 1920. Arch. Hydrobiol. 12:813.

Genotype: *Athienemannia schermeri* Viets.

*Chelomicopsis* Romijn, 1920. Jaarb. Nathist. Genootsch. Limburg. 1919:5.

*Generic Diagnosis:* Dorsal and ventral shields present; integument porous; capitulum with a moderately developed rostrum; palps unicate, disto-ventral end of P-IV rounded; two long fine setae (antagonistic bristles) present at the disto-medial end of P-IV; III-Leg-5 with slight sexual dimorphism in males of the North American species, none in the European species; legs without true swimming hairs, although a few long thin setae may be present (fig. 4); genital acetabula numerous; in the female the acetabula lie on acetabular plates, these plates not fused with the ventral shield; in the male the acetabula are not on acetabular plates but lie free in the integument of the genital field; special setae-bearing pore canals on genital field laterad to acetabula in males.

### *Athienemannia brunsoni*, new species

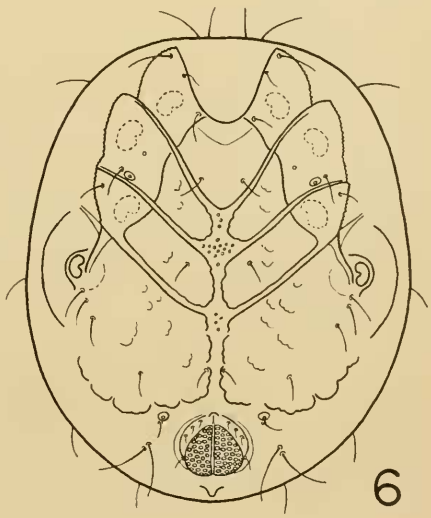
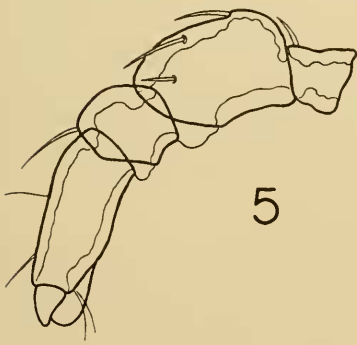
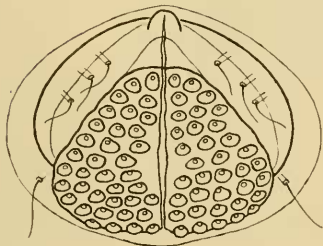
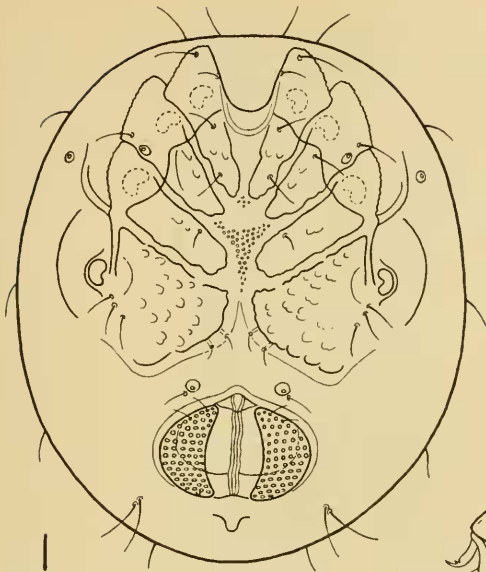
(Figs. 1, 2, 3, 5, 6,)

*Male.*—Length of ventral shield 724  $\mu$ ; width of ventral shield 646  $\mu$ ; length of dorsal shield 698  $\mu$ ; width of dorsal shield 541  $\mu$ .

Ventral shield oval, slightly truncate at anterior end; dorsal shield oval, with three pairs of large laterally placed glandularia; median border of fourth coxae little reduced; genital acetabula numerous; acetabular area wide, with up to six acetabula in a horizontal row; width of acetabular area much more than one-half width of genital field (fig. 3); three pairs of anterior and one pair of posterior

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Fig. 1, *A. brunsoni* n. sp., ventral view, female; fig. 2, *A. brunsoni* n. sp., third leg, male; fig. 3, *A. brunsoni* n. sp., genital field, male; fig. 4, *A. schermeri* Viets, third leg, male; fig. 5, *A. brunsoni* n. sp., palp, female; fig. 6, *A. brunsoni* n. sp., ventral view, male.



setae-bearing pore canals present laterad to the acetabula; excretory pore on a tubercle slightly posterior to the genital field; III-Leg-5 exhibiting slight sexual dimorphism, this segment somewhat lengthened and bowed out on the ventral side; dorsal lengths of the segments of the third leg were: III-Leg-2, 64  $\mu$ ; III-Leg-3, 72  $\mu$ ; III-Leg-4, 112  $\mu$ ; III-Leg-5, 212  $\mu$ ; III-Leg-6, 168  $\mu$ ; dorsal lengths of the segments of the fourth leg were: IV-Leg-4, 132  $\mu$ ; IV-Leg-5, 196  $\mu$ ; IV-Leg-6, 184  $\mu$ ; palps typical of the genus.

*Female*.—Length of ventral shield 978  $\mu$ ; width of ventral shield 873  $\mu$ ; length of dorsal shield 925  $\mu$ ; width of dorsal shield 768  $\mu$ .

Shape of dorsal and ventral shields very similar to those of male except in size; median border of fourth coxae reduced; two pairs of setae-bearing pore canals along inner side of fourth coxae; acetabula numerous, with up to six acetabula in a horizontal row; width of acetabular plate 80  $\mu$ ; width between lateral borders of the two acetabular plates 279  $\mu$ ; two setae on anterior portion of acetabular plate (this may not be constant for the species); no setae-bearing pore canals associated with the genital field; excretory pore on a tubercle just posterior to the genital field; field figure 5 shows chaetotaxy of palp, P-V somewhat foreshortened in drawing; legs moderately long, dorsal lengths of the first leg were: I-Leg-1, 72  $\mu$ ; I-Leg-2, 76  $\mu$ ; I-Leg-3, 82  $\mu$ ; I-Leg-4, 100  $\mu$ ; I-Leg-5, 120  $\mu$ ; I-Leg-6, 139  $\mu$ .

*Types*.—Holotype male, collected in a small spring along the east shore of Flathead Lake, Lake County, Montana (T26N/R19W/S29) on June 28, 1954. Allotype female, same data. Both types will be deposited in the Chicago Natural History Museum.

*Habitat*.—A cold reocrene spring consisting of a series of cataracts two to three feet in height. Bottom mostly rock, but with areas of sand at the base of the cataracts. Aquatic mosses present on the rocks.

*Remarks*.—*Athienemania brunsoni* is quite distinct from the European species, *A. schermeri* Viets and *A. fluvicola* Besseling, as the following comparisons will show. The latter species was erected by Besseling (1951) for a female specimen taken in Holland. Although the present author has examined specimens of *A. schermeri* only, the European species appear to be closely related and the following remarks should apply to both: *A. brunsoni* is considerably larger and the legs are longer. Males of the North American species show a slight sexual dimorphism of III-Leg-5. Figures 2 and 4 give a comparison between the third legs of *brunsoni* and *schmermeri* males (both drawn to the same scale). Unfortunately the male of *fluvicola* is unknown. In both sexes of the new species the acetabular area is wider and has more acetabula in a row. In the female specimen of *A. schermeri* examined, the acetabular plate had a width of about 40  $\mu$ , about one-half that of the *brunsoni* female.

#### REFERENCES

- Besseling, A. J., 1951. Nederlandse Hydrachnellae XXX. A-Thienemania fluvicola n. sp. Ent. Berichten, 13(314):315-316.  
Viets, K., 1920. Hydracarinae aus nord-deutschen und schwedischen Quellen. Arch. Hydrobiol. 12:803-814.